

Abstract

A running tool for wiper plugs used in cementing well casings into a wellbore. The running tool and setting balls or darts used to launch the plugs are retrievable following deployment of the plugs. Flapper valve assemblies on the wiper plugs are activated after the plugs are displaced from the running tool to eliminate the requirement to maintain a setting ball or dart in engagement with the wiper plug as the assembly is pumped down the well casing. Because of being retrievable, the mandrel, setting sleeves and setting ball or dart may be constructed of any desirable high-strength material without regard to the need to drill up the material following completion of the cementing job. The use of high-strength steel permits large flow passages to be employed in the cementing plugs by eliminating the need for large volumes of drillable metals in the plugs. The running tool protects the flapper valve seal surfaces from circulating fluids prior to deployment of the plugs from the tool.

15